



U.S. Army Corps of Engineers  
Engineer Research and Development Center  
Environmental Laboratory

## Ecological Benefits

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### Description of Technology

Tools, procedures, and models are constructed to quantify benefits of ecosystem restoration and mitigation projects implemented by the Corps. Areas of expertise include models and software for fish and wildlife resources and their habitats, and for wetland, aquatic, and riparian system functions. Capabilities provide practical assessment tools for impact assessment problems and ecosystem management and restoration opportunities.

### Benefits

The Corps' role in maintaining water-based ecosystem services requires that benefits be identified, analyzed, and interpreted in the context of society's goals. By quantifying ecological benefits of Corps actions, better decisions can be made on trade-offs among resources and on the effects of our projects. The tools developed by ERDC are based on sound technical principles, yet can be applied to real situations.

### Significant Accomplishments

Traditional fish and wildlife evaluation procedures have been updated in their technical content to better reflect ecological concerns, such as spatial context. The procedures now include models for assemblages of organisms, in addition to individual species, and models for plant communities. Software to rapidly calculate outputs of several benefits evaluation procedures has been developed and field-tested. The software integrates assessment procedures for wildlife habitat, wetland functions, and an ecological processes model. Combined with a procedure for cost-effectiveness, this software has been used to complete assessments in complex restoration projects. User-based products have been made available on the Internet and in focused training.

### Point of Contact

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